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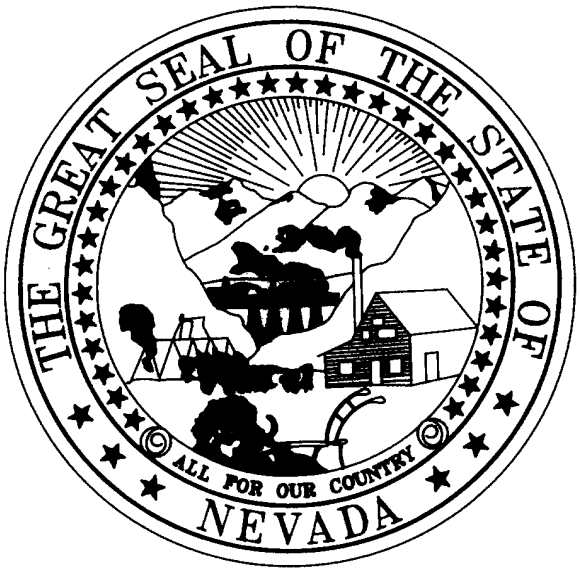
Listing Methodology for Nevada's 2002 303(d) List



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DRAFT Listing Methodology for Nevada's 2002 303(d) List

Introduction

Section 303(d) of the Clean Water Act requires that States develop a list of waterbodies needing additional work beyond existing controls to achieve or maintain water quality standards. This list, referred to as the Section 303(d) List, provides a comprehensive inventory of water bodies impaired by all sources, including point sources, nonpoint sources, or a combination of both. The 303(d) List is the basis for targeting water bodies for watershed-based solutions, and the Total Maximum Daily Load (TMDL) process provides an organized framework to develop these solutions.

Subpart C of 40 CFR (Code of Federal Regulations) Part 130 requires that states develop descriptions of the criteria and process used in generating their 303(d) lists. Following is a summary of the methodology to be utilized by the Nevada Division of Environmental Protection (NDEP) in developing the 2002 303(d) List, and de-listing previously listed waterbodies.

On July 11, 2000, past EPA Administrator Carol Browner signed new TMDL rules which represent significant changes to the current regulations and to content and format requirements of the 303(d) List. However at this time, the new TMDL regulations are not in effect and the exact future of these regulations is unknown. Because of the controversy, Congress prevented the implementation of the rule through passage of an appropriations bill which prohibits the obligation or expenditure of Fiscal Years 2000 and 2001 funds for the new TMDL rules or for any related technical assistance or guidance. This action moved the effective date of the rules to October 1, 2001. On July 16, 2001, EPA announced its plan to propose an 18-month extension of the effective date of the rule to provide time to review and possibly revise the rule. On October 18, 2001, the TMDL rule delay was made official. As a result of this action by EPA, the 2002 303(d) List is due to EPA on October 1, 2002 and the new TMDL rules have been delayed until April 30, 2003. Therefore, the 2002 303(d) List will be developed and submitted in accordance with the current regulations.

Background on Water Quality Standards

Nevada's water quality standards, contained in the Nevada Administrative Code (NAC) 445A.119 – 445A.225, define the water quality goals for a waterbody, or a portion of a waterbody, by: 1) designating beneficial uses of the water; and 2) setting criteria necessary to protect the beneficial uses. Beneficial uses include, but are not limited to, irrigation, recreation, aquatic life, fisheries, and drinking water. In many instances, NAC defines two or more reaches for a river system, with each reach possibly having different beneficial uses and water quality standards.

Both narrative and numeric criteria are included in Nevada's water quality standards. The narrative standards are applicable to all surface waters of the state and consist mostly of statements requiring waters to be "free from" various pollutants including those that are toxic. The numeric standards for conventional pollutants are broken down into two types: class and waterbody specific. For the class waters, criteria for various pollutants are designed to protect the beneficial uses of classes of water,

from A to D; with class A being the highest quality. The waterbodies belonging to these classes are named in the regulations.

For major waterbodies in Nevada, site-specific numeric standards have been developed. These waterbodies are often referred to as "designated" waters. The standards for designated waters include both criteria designed to protect the beneficial uses and antidegradation requirements. The antidegradation is addressed through the establishment of "requirements to maintain existing higher quality" or RMHQs. RMHQs are set when existing water quality (as evidenced by the monitoring data) for individual parameters is higher than the criteria necessary to protect the beneficial uses. This system of directly linking antidegradation to water quality standards provides a manageable means for implementing antidegradation through permits and other programs.

General Listing Criteria

The criteria for listing were developed to identify only those waterbody segments for which there is good documentation that beneficial uses are not being supported and water quality standards are not being met. In evaluating a given waterbody, NDEP will consider "all existing and readily available water quality related data and information." NDEP will utilize a weight-of-evidence approach whereby a variety of data, such as chemical/physical properties of water column, sediment and fish tissue; biological information; toxicity testing results; narrative and qualitative information, will be examined to determine impairment.

In general, a waterbody will be included on the 2002 303(d) List when there is adequate documentation that beneficial uses were not being supported and/or beneficial use standards (NAC 445A.119 through 445A.225, including narrative and numeric standards) were not being met during the five-year period 1997 through 2001. Also, a waterbody will be included on the 303(d) List if:

- A fishing, drinking, or swimming advisory has been in effect for the waterbody at some time during the listing period.
- The waterbody was listed on a prior 303(d) List and insufficient information exists to delist the waterbody.

Evaluating Numeric Standards and Data

For most waterbodies, the most comprehensive readily available water quality related data/information are physical and chemical water column monitoring data, and widely distributed scientifically defensible special studies (including chemical and biological information). Other types of data (sediment, fish tissue, narrative information, etc.) are generally not as common for Nevada waterbodies. While NDEP will examine all types of readily available data, it is anticipated that most listing decisions will be based upon numeric data due to the quantity of these data types.

In general, a waterbody will be included on the 2002 303(d) List if any of its numeric beneficial use standards were exceeded more than 10 percent of the time during the five-year listing period (January 1, 1997 to December 2001). There are some exceptions to this general rule as discussed in subsequent sections of this report.

Evaluating Other Data and Information

It is relatively straightforward to define methods for evaluating numeric data for numeric standard compliance. However, it is much more challenging to define how other types of data and information will be used in the listing process. Other potential types of data and information that may be evaluated in the listing process include:

- Fish tissue data
- Contaminated sediment data
- Toxicity testing data
- Bioassessment data and information
- Qualitative information

NDEP will employ a weight-of-evidence approach whereby a variety of these data/information types will be evaluated. Under the weight-of-evidence approach, all available data for a given waterbody will be examined and compared to determine impairment status or to potentially corroborate waterbody impairment indicated by other data. There may be instances where numeric data do not indicate impairment (but may be borderline), but other data and information show impairment. Therefore for these situations, the weight-of-evidence approach may indicate impairment. Regardless of the type of data being analyzed, the goal is to not just determine compliance with numeric standards but to determine whether or not a waterbody is meeting its beneficial uses. All data used in the listing process will be documented in the 2002 303(d) List.

Data Sources and Requirements

Data and Information Sources

As required by Section 303(d) of the Clean Water Act and Section 130.7(B)(5) of CFR, NDEP will compile and consider "all existing and readily available water quality related data and information" in identifying listed waters. Existing and readily available data and information includes, but is not limited to, the following:

- Most recent 303(d) List;
- Most recent 305(b) Report;
- Clean Water Act 319 nonpoint source assessments;
- Drinking water source water assessment under Section 1453 of the Safe Drinking Water Act;
- Dilution calculations, trend analyses, or predictive models for determining the physical, chemical or biological integrity of streams, rivers, lakes and estuaries; and

- Data, information, and water quality problems reported from local, State, Territorial, or Federal agencies (especially the USGS National Water Quality Assessment (NAWQA) and National Stream Quality Accounting Network (NASQAN)), Tribal governments, the public, and academic institutions.

NDEP operates an extensive water quality monitoring network throughout Nevada. As part of the monitoring, samples are collected from each major river basin in the state, and then analyzed for physical and chemical quality. In addition to this numeric information, NDEP also collects information pertinent to Nevada's narrative water quality standards.

Additional data will be solicited from other entities prior to the completion of the 2002 303(d) List. Also, the public notice and comment period will provide the opportunity for additional individuals and groups to present additional monitoring data, ongoing research or other publications for consideration. However, it is important that the decision to list a water body be based upon credible evidence. In order to solicit available data from other entities, NDEP will be issuing a request for data from various agencies and the public (See Appendix A).

Minimum Data Requirements and Listing

When numeric standards are being evaluated for potential use in the listing decision process, the associated data **should** meet the following minimum requirements:

- Minimum of 10 samples collected during the five-year period.
- **Be a sufficient number of samples to represent conditions in the waterbody reach during the five-year period.** Best professional judgment will be utilized to make this determination. Basically, the available samples may be considered representative if collected during a variety of flow regimes and seasons throughout the five-year listing period and not biased toward extreme or unusual conditions.

As stated earlier, a general rule is that a waterbody will be included on the 2002 303(d) List if any of its numeric beneficial use standards were exceeded more than 10 percent of the time during the five-year listing period (January 1, 1997 to December 2001). This is assuming that at least 10 samples were available. With sample sizes less than 10, two or more samples are to exceed the numeric standard for listing.

All data and information, whether quantitative or qualitative, **should** meet the following minimum requirements:

- Collected, developed in a scientifically sound and defensible manner
- Adequate documentation provided on location, collection process, etc.
- Limited to the time period January 1, 1997 to December 31, 2001

Data not meeting the above requirements are not automatically rejected for use in the listing process, but may be used in a weight-of-evidence approach along with other data to determine impairment status. NDEP staff will evaluate all data submissions on a case-by-case basis to determine whether

the submitted information are applicable and useful for identifying impaired waterbodies. The 2002 303(d) List report will provide documentation on all data submitted and whether or not the data were utilized in the listing process.

Detection Limits

Frequently, toxics concentrations in Nevada rivers are less than the detection limit[1] of the applicable laboratory procedure. According to Footnote (3) in NAC 445A.144, if the water quality standard:

> "…is less than the detection limit of a method that is acceptable to the division, laboratory results which show that the substance was not detected [below detection limit] will be deemed to show compliance with the standard unless other information indicates that the substance may be present."

Therefore for purposes of developing the 303(d) List, samples with toxic concentrations reported "as less than the detection limit" will be assumed to comply with the water quality standards, but only if:

- the certified laboratory method is acceptable to NDEP; and
- no other information indicates that the substance in question exists in levels detrimental to the beneficial uses.

Toxics

NAC 445A.144 defines water quality standards for various toxic materials that are applicable to the water specified in NAC 445A.119 through 445A.225. For some of these constituents, the standards set 1-hour average (acute) and 96-hour average (chronic) maximum acceptable concentrations, with the 96-hour criteria being the most restrictive. For listing purposes, it is assumed that grab (or integrated) samples are representative of both 1-hour and 96-hour average concentrations unless samples were collected frequently enough to provide further time resolution. In the case of those toxics with 1-hour and 96-hour standards, a waterbody will be listed for these pollutants if the most restrictive standard was exceeded more than 10 percent of the time during the listing period (for 10 or more samples).

Accounting for Extreme Events

Drought and flood period are a part of the natural process, and data that shows impairment as a result of a major drought or flood event should not serve as the listing basis. Nevada Administrative Code 445A.121(8) states, "The specified standards are not considered violated when the natural conditions of the receiving water are outside the established limits, including periods of extreme high or low flow ...." Therefore, water chemistry data associated with samples collected during extreme high and low flows[2] will not be considered in the listing analysis.

[1] Detection limit is the minimum concentration of a constituent that can be detected using a particular laboratory procedure.
[2] $7Q10_{high}$ and $7Q10_{low}$ may be used to establish the extreme flow conditions. 7Q10 flows are developed from historic streamflow data and are defined as a predicted high or low flow for a consecutive seven day period with an expected recurrence interval of ten years. There may be circumstances where a 7Q10 analysis is not appropriate, such as with a system highly regulated by reservoirs. In such cases, best professional judgment will be utilized to identify high and low flow limits.

Field and Laboratory Data

In the case of pH, both field and laboratory values are developed as part of NDEP's monitoring network. Whether using NDEP's or another's data, field pH will be the parameter evaluated for listing decisions. Since pH can change over time before the sample arrives at the laboratory, the field pH is felt to be the more accurate measure.

Biological Assessments

Starting in 2000, NDEP has been performing biological assessments on the major waterbodies in Nevada. Data and information are being collected concerning macroinvertebrate abundance and diversity, and physical habitat conditions. As this program is in its infancy, none of NDEP's biological assessment or bioassay information will be used in the 303(d) listing analysis. Biological assessment protocols will be developed as NDEP collects additional data. Credible scientific data and studies developed by others will be considered in the listing analysis in a weight-of-evidence manner with other data to potentially corroborate waterbody impairment.

Continuous Monitoring Data

Past 303(d) Lists have been developed based primarily upon grab sample data, which represent quality conditions for a specific point in time. Data collected on a more continuous basis, e.g. hourly, needs to be considered during the 303(d) List development. In recent years, NDEP and other groups have undertaken continuous monitoring of some parameters (such as dissolved oxygen, temperature, pH and specific conductance) for selected waterbodies. Listing criteria for these data are as follows:

- In many cases, the available continuous monitoring data will not have a complete record set for the five-year listing period (January 1, 1997 to December 31, 2001). However, there must be a sufficient period of record to represent conditions in the waterbody reach during the five-year period. Basically, the available samples are representative if collected during a variety of flow regimes and seasons throughout the five-year listing period and not biased toward extreme or unusual conditions.

- The following steps will be taken to analyze the data:

    - Each day of available data will be examined to determine the number of violations. If standards are violated for any length of time for a given day, it will be considered as one violation.

    - If the data for a reach are found to be representative of conditions during the five-year listing period, a reach will be listed if standard violations occurred for 10% of the sample days. For those datasets that are not representative of conditions for the listing period, a reach will be listed if standard violations occurred for 10% of the 1,826 days in the five-year period.

Additional Considerations during the Listing Assessments

Standards, Control Points and the Tributary Rule

For the major waterbodies, NAC sets water quality standards for specific control points (see NAC 445A.145). On a given stream, the standards apply to that control point and for the remainder of the river upstream, all surface waters upstream (in Nevada) or to the next control point upstream, if any. If there are no control points downstream from a particular control point, the standards for that control point apply for the remainder of the stream downstream, all surface waters downstream (in Nevada) or to the next waterbody downstream named in NAC. As a result, NAC has effectively divided many of the streams into reaches with varying standards.

As stated earlier, NDEP operates an extensive water quality monitoring network throughout Nevada. In many cases, the associated sampling locations are at control points. Data collected at these control points are evaluated as part of the listing process. If the standards are violated (in accordance to the criteria described herein) at the control point, the entire reach associated with that control point will be listed unless there is available information to divide the reach into subreaches. In fact, there are some instances where two or more monitoring stations are located on a reach. These data will be examined to determine whether or not to list the entire reach or only subreaches.

NAC 445A.145 is commonly referred to as the "tributary rule." In general, the tributary rule provides additional water quality criteria for those surface waters (in Nevada only) that are not defined as a class water (NAC 445A.123 through 127) nor as a designated water (NAC 445A.146 through 225). For those waters that are unclassified and undesignated, the water quality criteria for the nearest control point or classified water (upstream or downstream) may be applied to these water bodies in the listing analysis under certain conditions. The tributary rule will be applied to an unclassified and undesignated water in the listing analysis if:

- there was a hydrologic connection during the listing period not just in response to storm events; and
- the hydrologic connection was for a long enough period such that a commingling of water and an exchange of beneficial uses, in particular aquatic life, was possible.

Designated and Class Waters

The water quality of both the designated and the class waters will be evaluated for potential inclusion on the 2002 303(d) List. In general, only designated waters were included in past 303(d) Lists.

Single Value and Annual Average/Median Standards

For some reaches, the water quality standard for a parameter is defined in terms of a maximum annual average or annual median concentrations. The reach will be listed if the annual average or median values exceeded the beneficial use standard at least once during the five-year listing period.

Some reaches have both single value standards and annual average standards for certain parameters. If either the single value standard were exceeded more than 10% of the time (assuming a minimum of ten samples) or the annual average standard was exceeded at least once, the reach will be listed for that particular parameter.

Antidegradation Considerations

Nevada Revised Statutes (NRS) 445A.565 contain the State's antidegradation requirements. NRS 445A.565 states:

> "Any surface waters of the state whose quality is higher than the applicable standards of water quality as of the date when those standards became effective must be maintained in their higher quality. No discharges of waste may be made which will result in lowering the quality of these waters unless it has been demonstrated to the commission that the lower quality is justifiable because of economic or social considerations. This subsection does not apply to normal agricultural rotation, improvement or farming practices"

NRS 445A.565 is implemented through the establishment of requirements to maintain existing higher quality (RMHQs). An RMHQ is established when the monitoring data show that existing water quality for individual parameters is significantly better than the standard necessary to protect the beneficial uses. If adequate monitoring data exist, RMHQs are established at levels which reflect existing conditions. This system of directly linking antidegradation to numeric objectives provides a manageable means for implementing antidegradation through permits and other programs. In general, past Nevada 303(d) Lists have been developed based upon violations of the beneficial use standards and not the RMHQs. However in the case of the Truckee River, TDS was placed on the 1992 303(d) List due to violations of the TDS RMHQ. For the 2002 303(d) List and future lists, waterbodies violating RMHQs (in general, more than 10% of the time for sample sizes of 10 or greater) will be identified on the 303(d) List as “Potential Problems” but **not** listed as impaired.

Tribal Water Quality Standards

Tribes have independent authority for setting water quality standards and implementing regulations for waters on reservation land under the 1987 Amendments to the Clean Water Act (CWA). At this time, the State of Nevada has water quality standards on waterbodies on tribal lands throughout Nevada. Nevada will list waters on tribal lands only after consultation and agreement from the tribe affected unless a tribe has adopted its own water quality standard (approved by EPA). In those instances, the tribes must develop their own methodology and impaired waters list.

Natural Condition-Based Water Quality Standards

There are several instances in the regulations where the water quality criteria are defined as a certain level above or below the "natural conditions[3]" (Table 1). Application of these standards to the 303(d) listing process is difficult due to problems in quantifying natural conditions. In order to quantify natural conditions, data representing pre-human development conditions are needed. However, most of the available water quality data are based upon samples collected after upstream human impacts have occurred.

Table 1. Summary of Natural Condition-Based Water Quality Standards

Parameter	Applicable Water Class	Standard
Alkalinity	various designated waters	"less than 25% change from ***natural conditions***"
Color	various designated waters	"Increase in color must not be more than 10 PCU above ***natural conditions***."
Fecal coliform	Class C only	The more stringent of the following apply: "1. The fecal coliform concentration must not exceed a geometric mean of 1000 per 100 milliliters nor may more than 20 percent of total samples exceed 2400 per 100 milliliters." "2. The annual geometric mean of fecal coliform concentration must not exceed that characteristic of ***natural conditions*** by more than 200 per 100 milliliter nor may the number of fecal coliform in a single sample exceed that characteristic of ***natural conditions*** by more than 400 per 100 milliliter." (italics added) "3. The fecal coliform concentration, based on a minimum of 5 samples during any 30-day period, must not exceed a geometric mean of 200 per 100 milliliters, nor may more than 10 percent of total samples during any 30-day period exceed 400 per 100 milliliters. This is applicable only to those waters used for primary contact recreation."
Total Dissolved Solids	Class A, B and C waters	"must not exceed 500 mg/l or one-third above that characteristic of ***natural conditions*** (whichever is less)."
Turbidity	various designated waters	"Increase in turbidity must not be more than 10 NTU above ***natural conditions***."

[3] "Natural conditions" are considered to be the water quality characteristics that would exist in a waterbody without the impacts of modern human development. The Nevada Administrative Code does not define "natural conditions", but does provide the following definition of "natural waters" – "…waters which have not been degraded or enhanced by actions attributable to man."

These natural condition-based standards will be applied where existing and readily available data exist to accurately quantify "natural conditions." Where this is not possible, violations of the natural condition-based standards will not be evaluated for impairment status on the 2002 303(d) List, except for fecal coliform and TDS as follows:

> **Fecal coliform:** Criteria 1 and 3 in Table 1 are not natural condition-based standards and will be used in the listing analysis.
>
> **TDS:** The natural conditions portion of the standard will not be used, however the maximum TDS level of 500 mg/l in Table 1 will be used in the listing analysis.

NDEP is in the process of revising these natural condition-based standards to numeric criteria that are measurable and defensible.

Natural Background Considerations

In instances where a water quality standard is exceeded due solely to naturally occurring conditions, the exceedance will not be considered a violation of the water quality standard. Refer to the following NAC references:

> NAC 445A.120(2) states:
>
> "…Natural water conditions may, on occasion, be outside the limits established by standards. The standards adopted in NAC 445A.120 to 445A.213, inclusive, relate to the condition of waters as affected by discharges relating to the activities of man."
>
> NAC 445A.121(8) states:
>
> "The specified standards are not considered violated when the natural conditions of the receiving water are outside the established limits, including periods of extreme high or low flow…"

All of the following criteria must be met for a standards violation to be considered naturally occurring:

- Human activities (e.g. urbanization, grazing) within the affected waterbody shown not to be significant source of pollutant in question.
- The pollutant in question is known to occur naturally in the form found in the reach.
- A probable natural source (i.e. hot springs, mineralized outcropping) is located within the watershed.

Naturally occurring exceedances of the water quality standards will not be considered as a violation of the standard and the associated waterbody will not be listed as impaired. However, the waterbody will be included in the list report as an "Impaired by Natural Causes" waterbody. The 2002 303(d) Report will include documentation on any waterbody found to qualify for this exclusion from the impaired list.

Narrative Standards

Narrative standards appear in two locations in the regulations:

> NAC 445A.121 contains narrative criteria that are applicable to all surface waters of the state and consist mostly of statements requiring waters to be "free from" various pollutants in sufficient levels so as to not: 1) be unsightly; 2) interfere with any beneficial uses; 3) create a public nuisance; 4) be toxic to human, animal, plan or aquatic life; etc.
>
> NAC 445A.203 – 445A.208 (Humboldt River) includes criteria which states that color is to not have "adverse effects" on the beneficial use (with municipal and domestic supply being the most restrictive use).

As discussed earlier, NDEP will utilize a weight-of-evidence approach whereby a variety of data, including narrative and qualitative information, will be examined to determine compliance with the narrative standards. Compliance with narrative standards will be evaluated using best professional judgment and any credible available information describing how the beneficial uses may or may not be impaired.

One example of available qualitative information includes information collected by NDEP. When grab samples are collected as part of NDEP's monitoring network operations, staff also notes whether or not the water contains substances attributable to domestic or industrial waste or other controllable sources including:

- Settleable solids that form bottom or sludge deposits;
- Floating debris;
- Oil, grease, scum and other floating materials;
- Odor; and
- Color, turbidity or other conditions.

Special Considerations for Lakes

NDEP collects samples at a number of lakes throughout Nevada, however in some instances the sampling points are limited to one point that is easily accessible to the monitoring crew. The same may be true for other entities and their sampling programs. Depending upon the parameter in question, the resulting water quality data may or may not be representative of conditions in the lake. For instance, the samples may have been collected near shore at high use area with water quality representative of only a limited portion of the lake with no impairment of overall beneficial uses. Other samples collected further out in the lake may indicate different water quality conditions. For the 2002 303(d) List, water quality data associated with lakes will be used in the analysis unless other data suggest or through best professional judgment, the data are deemed to not represent overall conditions of the waterbody. The 2002 303(d) List will contain documentation on decisions made regarding the available data.

Delisting

As a general rule of thumb, it should take similar data to delist as to list. In other words, if the procedures described above are found to indicate a waterbody is not impaired, the waterbody will be delisted. Other reasons to delist include:

- The standard is no longer exceeded because of a change in the surface water quality standards.
- Faulty data or information, or errors in the analysis resulted in a listing error.

The above list is not intended to be inclusive of the only criteria considered for de-listing. NDEP reserves the right to use data or information that goes beyond the above criteria, and can include other types of information and best professional judgment.

TMDL Prioritization Schedule

40 CFR Part 130 requires that TMDLs be developed for those waterbodies listed in Part 1 of the 303(d) List, and that the 303(d) List contain a prioritized schedule for establishing TMDLs for these waters. Prioritizing water bodies enables the state to make efficient use of available resources to meet the objectives of the Clean Water Act. Priority ranking takes into account the severity of the pollution and the uses to be made of such waters.

Targeting high priority waters for TMDL development reflects an evaluation of the relative value and benefit of water bodies within the state. The prioritization schedule will be developed taking into consideration the following (not in order of priority):

- Risk to human and aquatic life
- Degree of public interest and support
- Recreational, economic, and aesthetic importance of a particular waterbody
- Vulnerability or fragility of a particular waterbody as an aquatic habitat
- Immediate programmatic needs such as:
    - waste load allocations
    - permits to be issued
    - new or expanding discharges
    - load allocations for needed Best Management Practices (BMPs)
- Severity of the impairment and the designated water uses
- Data availability
- Potential changes to water quality standards
- Appropriateness of standard
- TMDL complexity

If other factors are needed during the prioritization process, they will be presented in the 2002 303(d) List.

Public Participation

The draft methodology report will be made available to the public at the first of the year (2002). The comment period will end 60 days later. NDEP will review all comments and revise the methodology as needed. A summary of all comments received and NDEP's responses to significant comments will be submitted to EPA. The final methodology document will be made available to the public following submission to EPA. Once the methodology is completed, NDEP will develop the 2002 303(d) List which will be submitted to EPA on October 1, 2002.

Table 2. Tentative Schedule for Methodology and 2002 303(d) List Development

Date	Action
January 1, 2002	Begin 60 day public comment period on Methodology
March 1, 2002	End public comment period on Methodology
April 1, 2002	Complete final Methodology
April 1, 2002	Deadline for data submittal; Begin developing DRAFT List
July 1, 2002	Complete DRAFT List; Begin 60 day comment public comment period on List
September 1, 2002	End public comment period on List; Begin finalizing List
October 1, 2002	Submit Methodology and List to EPA

Summary

Section 303(d) of the Clean Water Act requires that States develop a list of waterbodies needing additional work beyond existing controls to achieve or maintain water quality standards. This list, referred to as the Section 303(d) List, provides a comprehensive inventory of water bodies impaired by all sources, including point sources, nonpoint sources, or a combination of both. The 303(d) List is the basis for targeting water bodies for watershed-based solutions, and the Total Maximum Daily Load (TMDL) process provides an organized framework to develop these solutions.

Subpart C of 40 CFR (Code of Federal Regulations) Part 130 requires that states develop descriptions of the criteria and process used in generating their 303(d) lists. This report summarized the basic methodology NDEP will use in developing the 2002 303(d) List. Waterbodies on the 2002 303(d) Report will be included in one of the following categories:

- **Impaired:** Violations of beneficial use standards
- **Potential Problems:** Violations of RMHQs (Requirements to Maintain Existing Higher Water Quality
- **Impaired by Natural Causes:** Violations of beneficial use standards caused by natural conditions

Under any given situation, NDEP reserves the right to use best professional judgment to make listing decisions that are not in complete accordance with this methodology report. This report is intended to serve as a framework for the listing process, but can not anticipate all possible conditions. The ultimate listing decision will be based upon whether beneficial uses are being supported as determined by the available data and criteria. All listing decisions will be documented in the 2002 303(d) List.

Glossary

Best Management Practices (BMPs). Methods, measures, or practices determined to be reasonable and cost-effective means for a landowner to meet certain pollution (generally nonpoint source) control needs.

Geometric Mean. The value obtained by taking the "nth" root of the product of "n" numbers.

Impaired waterbody. A water that does not attain/maintain the water quality standards throughout the waterbody due to individual or multiple pollutants or other causes of pollution.

Load allocations. The portion of a TMDL's pollutant load allocated to nonpoint sources (NPS) or background sources.

Median. For a given set of numbers, the median is the value which has an equal number of values greater and less than it.

Narrative standards. Nonquantitative guidelines that describe the desired water quality goals.

Nonpoint sources. Pollution that is discharged over a wide land area and not from one specific location.

Point sources. Pollutant loads discharge at a specific location from pipes, outfalls, and conveyance channels from either municipal wastewater treatment plants or industrial waste treatment facilities.

Total Maximum Daily Load (TMDL). A TMDL is a written, quantitative plan and analysis for attaining and maintaining water quality standards in all seasons for a specific waterbody and pollutant. Total maximum daily loads or TMDLs are an assessment of the maximum amount of pollutant a waterbody can receive without violating water quality standards. TMDLs take into account pollution from all sources, including discharges from sewage treatment facilities and industry; runoff from farms, forests and urban areas; and natural sources. TMDLs provide a way to integrate the management of both point and nonpoint sources of pollution through the establishment of wasteload allocations (WLA) for point source discharges and load allocations (LA) for nonpoint sources of pollution. The TMDL Program is designed to help bring waterbodies into compliance with the water quality standards as needed to support their designated uses such as irrigation, aquatic life, municipal or domestic supply, and water contact recreation.

Waste load allocations. The portion of a TMDL's pollutant load allocated to point sources subject to NPDES permits.

Appendix A

Request for Water Quality Information in Support of the 2002 303(d) List Development

Request for Water Quality Information in Support of the2002 303(d) List Development

Section 303(d) of the federal Clean Water Act (CWA) requires Nevada to develop a list of waterbodies needing additional work beyond existing controls to support beneficial uses or to achieve or maintain water quality standards. This list, referred to as the Section 303(d) List, provides a comprehensive inventory of water bodies impaired by all sources, including point sources, nonpoint sources, or a combination of both. In support of the State's 2002 303(d) List efforts, the Nevada Division of Environmental Protection – Bureau of Water Quality Planning (NDEP-BWQP) is soliciting the public for data and information pertaining to the water quality conditions of surface waters in Nevada.

Data and information may be submitted by anyone, including private citizens, public agencies, state and federal governmental agencies, non-profit organization, and businesses. The data and information may include documentation describing the current water quality condition of a waterbody; and/or data pertaining to the physical, chemical and/or biological conditions of waterbodies, sediment and fish tissue. BWQP staff will evaluate all data and information submissions on a case by case basis to determine whether the information are applicable and useful for identifying impaired waterbodies as required by CWA.

All submittals should meet the following requirements:

- The name of the organization or person providing the information must be included, along with the name and telephone number or email address for a contact person that can answer questions about the submitted information.

- Data should reflect water quality conditions during the five-year time period January 1, 1997 to December 31, 2001.

- Numeric data should be in electronic form (spreadsheet, database or ASCII format) including at a minimum: site location, date, time, depth, parameter and units.

- Numeric chemical, physical and biological data must be accompanied by documentation of the quality assurance methods used collecting, analyzing, and reporting the data.

- All data and information are to have been collected and developed in a scientifically sound and defensible manner.

- Sampling locations must be accurately described. Maps showing sampling location(s) should be included.

All submittals will be accepted until **April 1, 2002**. It is suggested that anyone wishing to submit data and information first contact us to verify that the data are suitable for the 303(d) Listing process. Submittals as well as questions or comments should be directed to:

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